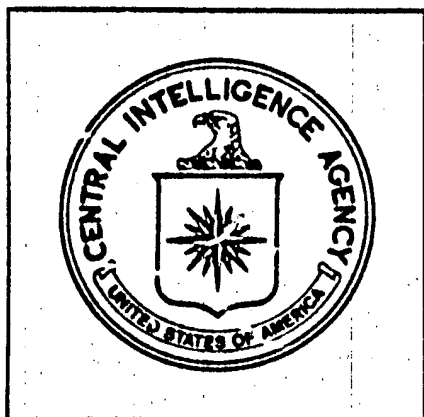


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*The Nyazepetrovsk-Sverdlovsk
Water Diversion Project*

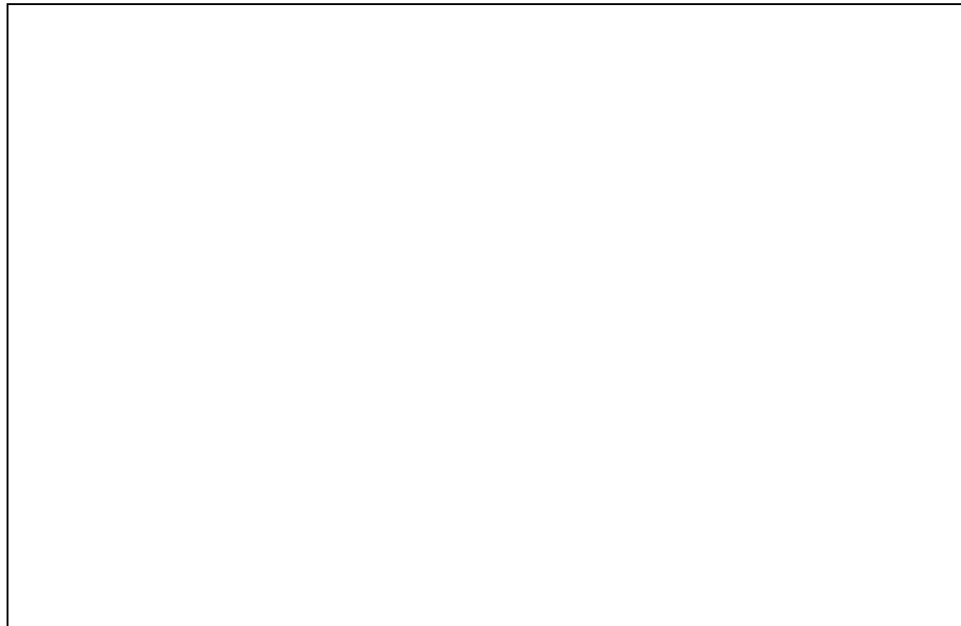
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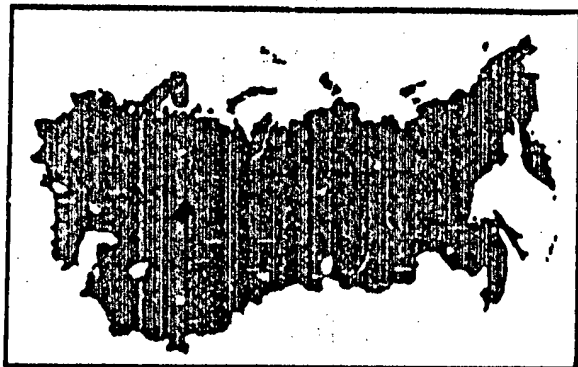
September 1976

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THE NYAZEPETROVSK-SVERDLOVSK WATER DIVERSION PROJECT

A new pipeline and a canal under construction in the Urals region of the Soviet Union will bring much-needed water to the industrial city of Sverdlovsk. This will be the first to be completed of several current Soviet schemes to solve major water deficit problems by transferring water from one river basin to another.* ☐

This project will take water from a new reservoir on the Ufa River at Nyazepetrovsk through a steel pipeline 34 kilometers long to a tributary of the Chusovaya River. The Soviet press has reported that only the first 17 kilometers of the pipeline will be under pressure, with the water flowing downhill for the remainder of the distance. However, good topographic maps indicate that pressure will have to be maintained for 30 kilometers to carry the water over the divide between the Ufa and Chusovaya basins. That point is 550 meters above sea level, 200 meters higher than the reservoir at Nyazepetrovsk. ☐

☐ No information is available on the diameter or the capacity of the pipeline nor on the cost of the project. ☐

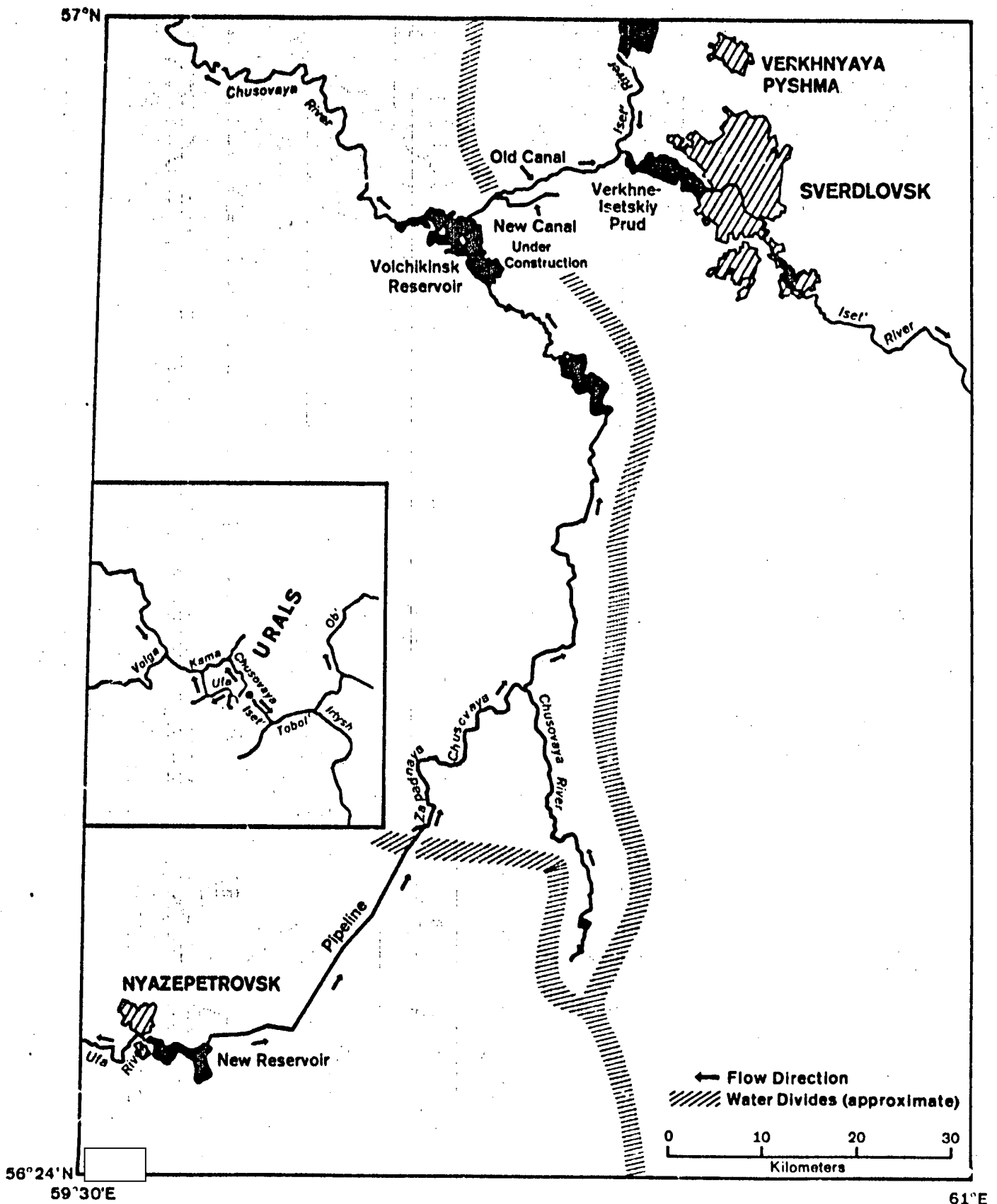
The greater flow of the Chusovaya resulting from this influx of water will increase the water supply to two reservoirs on that river. From the lower of these, the Volchikinsk Reservoir, water will flow through a new canal, as yet only partially completed, to Sverdlovsk's main water supply reservoir on the Iset' River. The low divide between the Chusovaya, flowing westward to the Volga River, and the Iset', flowing eastward to the Ob' River, is crossed by this new canal, which in part parallels a smaller canal built between 1940 and 1945 to transfer water across the divide. ☐

The Sverdlovsk area has long had a water deficit, and planned growth now makes new supplies imperative. The population of the city proper, now 1.15 million, is

*For information on other projects see *The Kama-Vychegda Pechora River Reversal Scheme*, CIA/BCI GR 73-2, January 1973 (OUO); and *USSR Agriculture Atlas*, CIA, December 1974, Page 25 ☐

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expected to reach only 1.2 million by 1980 and level off at 1.35 million; however, considerable industrial expansion is planned for Sverdlovsk, and both population and industry are slated to grow significantly in nearby satellite cities. A new strip rolling mill with a capacity of 1.5 million tons a year is planned for the 1976-80 period at Sverdlovsk's largest industry, the Uralmash heavy machine building plant; and an associated plant is being constructed at Verkhnyaya Pyshma, just north of Sverdlovsk. Additional water is also needed for a 950-megawatt heat and power station under construction in Sverdlovsk and for planned increases in vegetable farming around the city. ☐

There are also plans for an expanded water system to supply the city's industrial center and for water purification facilities. Sverdlovsk's industries are scheduled during the next 10 years to allocate 50 million rubles to these projects, and funding for the Nyazepetrovsk-Sverdlovsk water diversion may possibly be included in that amount. (☐)

Sverdlovsk has to reach 100 kilometers southwest to the Ufa River for water to take advantage of the much heavier rainfall on the western side of the Urals where the Ufa's sources lie. As Atlantic Ocean air masses rise to the Ural crest, they are cooled and drop much of their moisture before they reach the eastern side. The Ufa's tributaries originate in the highest area of the central Urals, where the precipitation is relatively heavy, and the resultant flow of water in the Ufa is greater than that in the Chusovaya and other Volga tributaries near Sverdlovsk. Also, the new system will provide a more even seasonal supply to the storage reservoirs of the Sverdlovsk area. The seasonal flow is more evenly distributed on the western side of the mountains, where only 65 to 70 percent of the yearly flow occurs in the spring, compared with 95 percent in the vicinity of Sverdlovsk. ☐

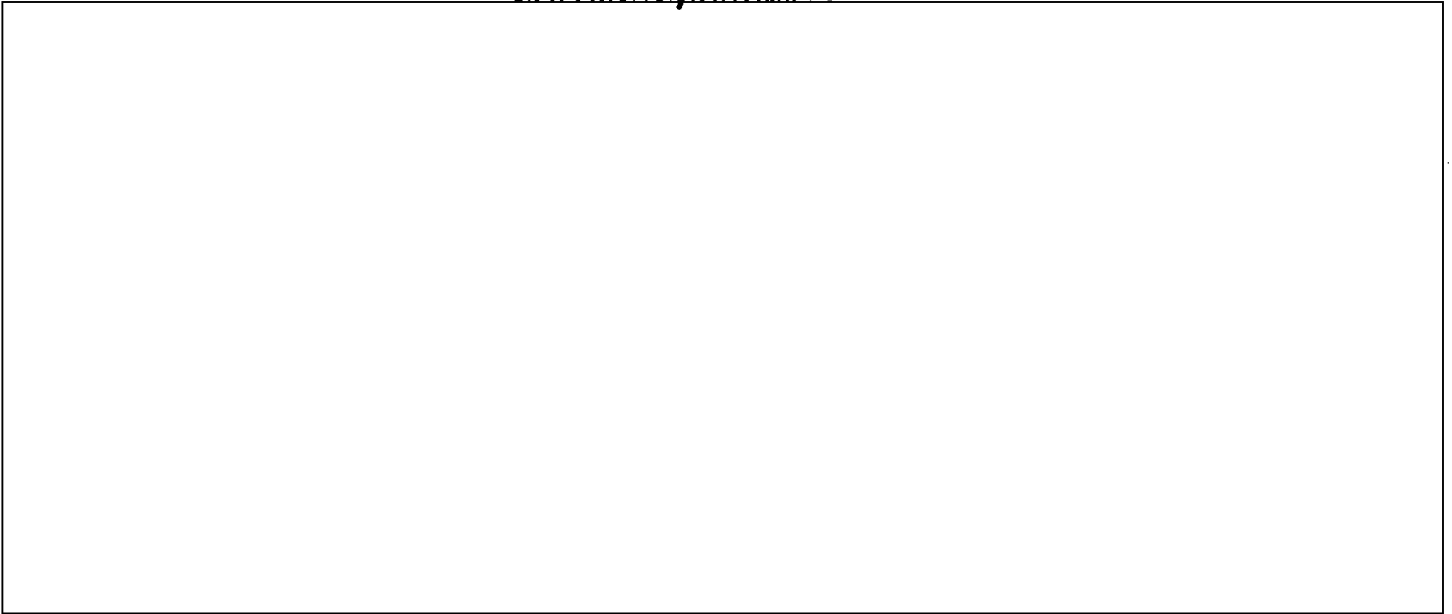
Several similar projects are planned to bring water from the Volga basin to other Urals cities, but none is known to be under construction yet. One such project would divert water from the high precipitation area of the central Urals into the Miass River, which flows through the large Urals city of Chelyabinsk, 200 kilometers south of Sverdlovsk. (☐)

Soviet descriptions of the Urals water supply problems include cautions that there are limits to the amount of water that should be transferred from the Volga basin, which is already short of water in its lower sections. In these particular cases, however, the amount of water diverted will be an insignificant part of the total Volga flow and will be more than compensated for by the eventual diversion of water into the Volga by the Kama-Vychehda-Pechora project. ☐

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